

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and at least one side surface that constitutes a guiding surface, the system comprising:

a guiding roller device cooperating with the rolling surface and the side surface of the rail and including

a rolling part having a peripheral surface for rolling contact with the rolling surface of the rail, and

at least one side part for contact with the side surface of the rail that faces the at least one side part, wherein

the rolling part and the side part are rotationally connected to each other so that the side part rotates at the same speed that the rolling part rolls on the rolling surface of the rail,

the side part includes at least one side roller,

the side roller has, in radial section, a portion with a convex profile, with an outermost surface that contacts the side surface of the rail, and

the rail has a substantial planar side surface for contacting the outermost surface of the convex profile of the side roller, so that the side-part roller, when in contact with the side surface of the rail, ~~contacts~~ establishes a point of contact with the side surface of the rail ~~only at one point at a time.~~

2. (Currently Amended) The system according to Claim 1, wherein the rolling part includes at least one rolling support roller, ~~the side part includes at least one side roller, and~~

the side part has a diameter and a shape for contacting the side surface of the rail so that the side roller, at the point of contact contacting the side surface of the rail, has the same rotational speed as the rolling part contacting the rolling surface of the rail.

3. (Previously Presented) The system according to Claim 2, wherein the guiding system has two parallel guiding rails having respective exterior side surfaces as guiding surfaces, and the guiding system comprises a support roller and a side roller for each guiding rail.

Claims 4-14 (Cancelled).

15. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and two side surfaces that constitute guiding surfaces, the system comprising:

a guiding roller device cooperating with the rolling surface and the side surfaces of the rail and including

a central roller having a peripheral surface for rolling contact with the rolling surface of the rail, and

two side rollers for contact with respective side surfaces of the rail that face the respective side rollers, wherein

the central roller and the side rollers are rotationally connected,,
each of the side rollers has, in radial section, a portion with a convex profile having an outermost surface that contacts one of the side surfaces of the rail, and,

the rail has substantially planar side surfaces for contacting the outermost surfaces of the convex profiles of the side rollers, so that the two side rollers, when in contact with the respective side surfaces of the rail, contact the respective side surfaces of the rail~~only at one point at a time~~ respective points of

~~contact, and the two side rollers each have a diameter and a shape for contacting the side surfaces of the rail so that the two side rollers, at the points of~~ in contact with the respective side surfaces of the rail, rotate at the same speed that the central roller rolls on the rolling surface of the rail.

Claim 16 (Cancelled).

17. (Previously Presented) The system according to Claim 15, wherein the side rollers are rotationally synchronized with the central roller.

18. (Previously Presented) The system according to Claim 15, including means for synchronizing rotation speed of the side rollers with rotation speed of the central roller, the means for synchronizing comprising teeth associated respectively with the side roller and with the central roller, and which mesh with one another.

19. (Previously Presented) The system according to Claim 18, wherein the teeth are mounted on a support via sliding means sliding between the teeth and the support when a force exceeding a predetermined threshold is applied to the sliding means.

20. (Previously Presented) The system according to Claim 18, wherein the means for synchronizing rotation speed of the side rollers with rotation speed of the central roller includes belts and pulleys.

21. (Previously Presented) The system according to Claim 18, wherein the means for synchronizing rotation speed of the side rollers with rotation speed of the central roller comprises a ring of a nondeformable solid material in contact with a bearing surface of the central roller for frictional engagement of the side rollers with the central roller.

22. (Previously Presented) The system according to Claim 21, wherein the central roller includes a support shaft, a ring rotating freely, and a support device connected to the support shaft and maintaining the ring in position.

23. (Previously Presented) The system according to Claim 22, wherein the support device comprises rollers supported by the ring and that come into rolling contact with an internal annular surface of the ring.

24. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and two side surfaces that constitute guiding surfaces, the system comprising:

a guiding roller device cooperating with the rolling surface and the two side surface surfaces of the rail and including

two rollers, each roller having ~~a radial~~ an axial external part for contacting a respective side surface of the rail and ~~a radial~~ an axial internal part for contacting the rolling surface of the rail, wherein

the two rollers are arranged in a V-shaped configuration,

the two rollers are rotationally connected to each other so that the two rollers turn at the same speed,

each of the rollers has, in radial section, a portion with a convex profile, with an outermost surface that contacts one of the side surfaces of the rail, and

the rail has substantially planar side surfaces for contacting the outermost surfaces of the convex profiles of the rollers so that the two ~~radial~~ axial external parts, when in contact with the respective side surfaces of the rail, contact the respective side surfaces of the rail ~~only at one point at a time~~ respective points of contact.

25. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and two side surfaces that constitute guiding surfaces, the system comprising:

a guiding roller device cooperating with the rolling surface and the side ~~surface~~ surfaces of the rail and including

~~two~~ first and second rollers, each roller of the first and second rollers having ~~a radial~~ an axial external part for contacting a respective side surface of the rail ~~and a radial~~, the first roller having an axial internal part for contacting the rolling surface of the rail, and the second roller having a peripheral ring for contacting an annular surface of the first roller to ensure rotation of the first roller by frictional engagement of the first and second rollers so that the first and second rollers turn at the same speed, wherein

~~the two first and second rollers are arranged in a V-shaped configuration, the two rollers are rotationally connected to each other, a first of the two rollers has a peripheral ring contacting an annular surface of a second of the rollers to ensure rotation of the first of the rollers by friction with the second of the rollers, so that the two rollers turn at the same speed,~~

each of the first and second rollers has, in radial section, a portion with a convex profile, with an outermost surface that contacts one of the side surfaces of the rail, and

the rail has substantially planar contact surfaces for contacting the outermost surfaces of the convex profiles of the first and second rollers so that the two ~~radial~~ axial external parts of the first and second rollers, when in contact with the respective side surfaces of the rail, contact the respective side surfaces of the rail ~~only at one point at a time~~ respective points of contact.

26. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and at least one side surface that constitutes a guiding surface, the system comprising:

a guiding roller device cooperating with the rolling surface and the side surface of the rail and including

a rolling part having a peripheral surface for rolling contact with the rolling surface of the rail, and

at least one side part for contact with the side surface of the rail that faces the at least one side part, wherein ~~the side part, when in contact with the side surface of the rail, contacts the side surface of the rail only at one point at a time, so the side part rotates at the same speed that the rolling part rolls on the rolling surface of the rail, and~~

the side part has, in radial section, a portion with a convex profile ~~with having~~ an outermost surface that contacts the side surface of the rail ~~at the point~~ and the side surface of the rail that is contacted by the portion with the convex profile is substantially planar so that the side part, when in contact with the side surface of the rail, contacts the side surface of the rail at a respective point of contact, and the side part rotates at the same speed that the rolling part rolls on the rolling surface of the rail.

27. (Currently Amended) A system for guiding a vehicle along a guiding rail, having a rolling surface and at least one side surface that constitutes a guiding surface, the system comprising:

a guiding roller device cooperating with the rolling surface and the side surface of the rail and including

a rolling part having a peripheral surface for rolling contact with the rolling surface of the rail, and

at least one side part for contact with the side surface of the rail that faces the at least one side part, wherein

the side part comprises a side roller having an axis of rotation, and, in a plane perpendicular to the axis of rotation and inclined with respect to a plane perpendicular to the rolling surface of the rail, the side roller has, in radial

section, a convex profile with an outermost surface that contacts the side surface of the rail, and

the side surface of the rail is substantially planar where contacted by the side roller so that the side-part roller, when in contact with the side surface of the rail, contacts the side surface of the rail only at one a respective point-at-a-time of contact, so the side-part roller rotates at the same speed as the rolling part rolling on the rolling surface of the rail, and the side part comprises a side roller having an axis of rotation, and, in a plane perpendicular to the axis of rotation and inclined with respect to a plane perpendicular to the rolling surface of the rail, the side roller has, in radial section, a convex profile with an outermost surface that contacts the side surface of the rail as the side roller rotates about the axis of rotation.